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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/509,685 | 07/13/2005 | Rolf Deserno | DESE3002/FJD | 3826 |

23364 7590 07/17/2006

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| EXAMINER |
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DOUGHERTY, THOMAS M

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| ART UNIT | PAPER NUMBER |
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2834

DATE MAILED: 07/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/509,685

Applicant(s)

DESERNO ET AL.

Examiner

Thomas M. Dougherty

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 5,8 and 9 is/are rejected.
- 7) ☒ Claim(s) 6,7 and 10 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) *
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luehr (DE 4323134) in view of Eckert (5,664,456). Luehr shows (fig. 1) a sound or ultrasound sensor for the transmission and/or reception of sound or ultrasound, comprising: a housing (20), a piezoelectric element (12) for producing and/or receiving sound or ultrasound, a matching layer (16) next to said piezoelectric element (12); and a metal ring (14).

A damping material (18) is present in said housing (20).

Luehr does not show a pot shaped housing or a housing with a floor. Luehr does not show his metal ring gripping the matching layer or extending the full thickness of said matching layer.

Eckert shows a sound or ultrasound sensor for the transmission and/or reception of sound or ultrasound, comprising: a pot-shaped housing (1) closed at one end by a floor (12), a piezoelectric element (2) for producing and/or receiving sound or ultrasound

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through said floor (12), a matching layer (3) between said piezoelectric element (2) and said floor (12); and a ring (4) gripping around said matching layer (3) and having an interlocking fit therewith.

A damping material (6) is present in said housing (1).

Said ring (4) extends the full thickness of said matching layer (3).

Eckert does not note a metal material for his ring.

It would have been obvious to one having ordinary skill in the art to employ a metal material for the ring in Eckert, such as is shown by Luehr since this material has a high acoustic impedance which would effectively reduce “the radiation of sound energy in the radial direction” which is desirable in such a device as noted by Eckert at col. 6, ll. 3 and 4.

Alternatively, it would have been obvious to one having ordinary skill in the art to employ a metal material for the ring in the device of Eckert at the time of his invention since it has been held to be within the skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Allowable Subject Matter

Claims 6, 7 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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The following is a statement of reasons for the indication of allowable subject matter: the prior art does not show a matching layer with an annular groove around it at its outer edge in a device further comprising a pot-shaped housing enclosed at one end by a floor, within which is a piezoelectric layer and a matching layer between the piezoelectric element and the floor wherein a metal ring grips the circumference of the matching layer and has an interlocking fit therewith.

Conclusion

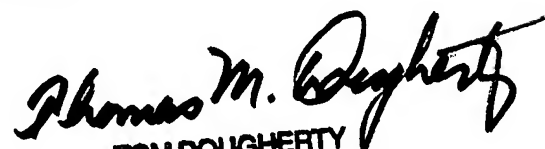
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The remaining prior art reads on at least some aspects of the claimed invention.

This is not a final rejection.

Direct inquiry to Examiner Dougherty at (571) 272-2022.

tmd

July 12, 2006


TOM DOUGHERTY
PRIMARY EXAMINER